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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/780,832	02/18/2004	Benoit Brule	FR-AM1929 NP	3754
31684	7590	02/18/2009		
ARKEMA INC. PATENT DEPARTMENT - 26TH FLOOR 2000 MARKET STREET PHILADELPHIA, PA 19103-3222			EXAMINER WOODWARD, ANA LUCRECIA	
			ART UNIT 1796	PAPER NUMBER
			MAIL DATE 02/18/2009	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/780,832	Applicant(s) BRULE, BENOIT	
	Examiner Ana L. Woodward	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 February 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 11-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 11-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claims 11-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 11 section a), it is unclear as to whether “and containing no carbon nanotubes” is qualifying both of the antecedently recited polyamide (A1) and polyamide/polyolefin blend.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 11-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. 6,090,459 (Jadamus et al) in view of U.S. 5,376,712 (Nakajima) and U.S. 6,617,377 (Chacko) as per reasons of record and further in view of U.S. 6,615,877 (Zimmer et al).

Jadamus et al disclose multilayer pipes for the transport of petrochemical materials comprising:

- i) an outer layer of polyamide 12, reading on the presently claimed layer (1);
- ii) a first intermediate layer of polyester or polyvinylidene fluoride, reading on the presently claimed non-specific layer (2);
- iii) a second intermediate layer of polyamide 12, reading on the presently claimed layer (4a); and

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iv) an inner layer of an impact-modified polyamide ((VESTAMID) and graphite fibrils, reading on the presently claimed layer (5). See examples 1-4.

It is maintained that, as presently recited, applicant's tie layer (2) generically reads on all of the barrier layers disclosed by Jadamus et al (column 5, lines 1-8). Furthermore, it is maintained that the VESTAMID "impact-modified polyamides" disclosed by Jadamus et al correspond to a blend of polyamide and polyolefin reasonably believed to meet the presently claimed polyamide and polyolefin contents (per Nakajima, e.g., column 1, lines 7-8, column 2, line 53, column 8, lines 24-27, 68, etc.). Regarding the claim requirement "wherein said carbon nanotubes concentrate in the polyamide", it is known that polyamides are capable of forming secondary bonding with nanoparticles such as carbon nanotubes (Chacko column 3, lines 60-62, column 4, lines 3 and 48, etc.). Accordingly, one having ordinary skill in the art would have reasonably expected the carbon nanotubes in the reference's VESTAMID polyamide/polyolefin blends to reside in the polyamide matrix due to the secondary bonding between the polyamide and the nanotubes.

As to the herein claimed process, it is maintained that said process, in essence, calls for nothing more than exposing a structure having at least one layer of the claimed polyamide/polyolefin blend to a fuel. The disclosure of the reference meets said process in that the exemplified multilayered pipes comprising an inner layer from the impact-modified polyamide are indeed exposed to fuel, as evidenced by the fuel leakage measurements provided by Table 1. The introductory phrase "a method for improving barrier properties of a structure to alcohol-containing fuels" simply states the result of exposing the structure to fuel and does not serve to patentably distinguish the claimed process from that of Jadamus et al. Even if the

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reference were not to expressly disclose or recognize said barrier characteristics, its discovery by applicants is tantamount only to finding a property of an old composition. Such recognition does not impart patentability to an otherwise old composition.

The impact-modified (VESTAMID) polyamide and graphite fibrils composition of Jadamus et al constitutes the inner layer of the pipes, that is, said inner layer is in direct contact with the fuel. Accordingly, since said inner layer is in direct contact with the fuel, it follows that said inner layer would be a barrier layer to said fuel.

Regarding claim 14, it is maintained that it would have been obvious to one having ordinary skill in the art to use additional well known additives, e.g., pigments like carbon black per Table 1, for their expected additive effect.

Even if the presently claimed tie layer (2) was amended to distinguish chemically over the barrier layer of Jadamus et al, it is noted that patentees' barrier layer is an optional layer and, as such, is not required. It is within the scope of Jadamus et al to produce multilayered structures comprising multiple nylon layers (as in the examples) but with no additional barrier layer. From Zimmer et al, directed to similar-such multilayered structures, it is known to provide bonding layers (tie layers) between adjoining nylon layers for the purpose of increasing the bonding characteristics of the nylon layers (column 2, lines 46-65, Figures 1 and 3).

Accordingly, it would have been obvious to one having ordinary skill in the art to have provided bonding layers between the adjoining nylon layers of Jadamus et al's multilayered structures, comprising multiple nylon layers (as in the examples) but with no additional barrier layer, for their expected effect. Accordingly, no patentability can be seen in the presently claimed subject matter.

Response to Arguments

4. Applicant's arguments filed February 08, 2009 have been fully considered but they are not persuasive.

It is maintained that applicant's tie layer, as presently recited, generically embraces the intermediate barrier layers of Jadamus et al. Even if the presently claimed tie layer was amended to distinguish chemically over the barrier layer of Jadamus et al, it is noted that patentees' barrier layer is an optional layer and, as such, is not required. It is within the scope of Jadamus et al to produce multilayered structures comprising multiple nylon layers (as in the examples) but minus the barrier layer. From Zimmer et al, it is known that bonding layers (tie layers) can be provided between adjoining nylon layers for the purpose of increasing their bonding characteristics. Note for example Figures 1 and 3 of Zimmer et al wherein a bonding layer composed of functionalized polyolefin is provided between two nylon layers. Accordingly, it would have been obvious to one having ordinary skill in the art to have provided bonding layers between the adjoining nylon layers of Jadamus et al's multilayered structures (i.e., those structures comprising only nylon layers with no barrier layer) for their expected effect. Accordingly, no patentability can be seen in the presently claimed subject matter.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ana L. Woodward whose telephone number is (571) 272-1082. The examiner can normally be reached on Monday-Friday (8:30-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James J. Seidleck can be reached on (571) 272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Ana L. Woodward/
Primary Examiner
Art Unit 1796